

REMARKS

Claims 1-12 are pending and under examination in this application. Claims 8-12 are newly added. No new matter is raised by the addition of new claims 8-12. Support for the change to Claim 1 is found at paragraph [0039] on page 19 of the specification. Support for new Claims 8-12 is found in paragraphs [0028], [0030] and [0038] in the specification.

Issues under 35 USC § 103(a)

Claims 1-4 and 7 have been rejected under 35 USC § 103(a) as being unpatentable over Hebert '172 (USP 5,885,172).

Claims 5 and 6 have been rejected under 35 USC § 103(a) as being unpatentable over Hebert '172 in view of Halko '046 (USP 6,458,046).

The above rejections are traversed for the following reasons.

The Present Invention and Its Advantages

The present invention is directed to a multi-piece solid golf ball, which includes an intermediate layer having the defined elongation range of 9 - 20 mm and flexural stiffness range of 300 - 2000 MPa, and a cover formed from a thermoplastic resin, as recited in Claim 1, for example. Employment of this combination of features provides for unexpected, advantageous

properties as evidenced by the Comparative Test Results in the present specification. For example, Example Nos. 1-4 (present invention), shown in Table 4 at paragraph [0064] exhibit advantageously improved flight performance properties over Comparative Example in Nos. 1-3, described in Table 5 at paragraph [0065] of the specification. Note that, even though Comparative Example Nos. 1 and 2 have appropriate flexural stiffness properties, because these comparative examples have elongation (penetration) properties below the lower end point of the range of the present invention, the resulting golf balls exhibit inferior disadvantageous flight performance properties. Also, Comparative Example No. 3 is a golf ball, which includes an intermediate layer having appropriate elongation (penetration) properties, but flexural stiffness properties below the range of the present invention, which results in the inferior flight performance properties. Thus, unless both the elongation (penetration) and flexural stiffness property ranges are employed, the resulting golf ball fails to exhibit the advantageously improved flight performance properties of the golf balls of the present invention.

In addition to the above, it is noted that the golf ball of the present invention includes the following significant features: [i] the golf ball is a multi-piece "solid" golf ball which excludes "wound" golf balls; [ii] the intermediate layer

employs both the elongation (penetration) range of 9 - 20 mm and a flexural stiffness range of 300 - 2000 MPa; and [iii] the cover is formed from a thermoplastic resin.

With regard to the elongation feature [ii], it is noted that the technical meaning of limiting the elongation when applying the maximum load in penetration and impact fatigue tests in the present invention is described in paragraphs [0002] to [0009] and [0016], particularly in paragraph [0016] of the specification of the present application. The test method is described in paragraph [0062] and Fig. 1. The elongation when applying the maximum load in penetration and impact fatigue tests is the most important feature in the present invention as described therein. Other advantageous associated with the intermediate layer are described in paragraph [0016] at pages 7-8 of the specification.

Distinctions between Hebert '172

Hebert '172 discloses a multiplayer golf ball, which includes a core, an inner cover layer and a thin outer cover layer, wherein the outer cover layer is formed from a "thermoset" material formed from a castable, reactive liquid as noted at column 3, lines 49-55. The inner cover layer has a flexural modulus of 65,000 - 120,000 psi (i.e., 448-827 MPa, according to the Office Action) and may be formed from a wide

variety of polymeric materials, as described at column 5, line 27 to column 6, line 37.

Hebert '172 fails to disclose or suggest a golf ball, which includes a cover formed from a thermoplastic material as in the golf ball of the present invention. Hebert '172 fails to disclose or suggest a golf ball having an intermediate layer with the elongation properties recited in the present claims. Thus, Hebert '172 fails to disclose either of the features [ii] or [iii], as discussed above. It is further noted that the selection of materials and processing conditions affect the properties of these materials, such that it cannot merely be concluded that because the starting materials may overlap the resulting produced polymers have the same properties. Specifically, as evidenced by the Comparative Test results discussed above in the present specification, the selection of an intermediate layer having flexural stiffness properties with in the range of the present invention, such as Comparative Examples 1 and 2, fails to provide a golf ball exhibiting the advantageous properties of the golf ball of the present invention, if the elongation properties are not selected correctly. Consequently, significant patentable distinctions exist between the present invention and Hebert '172. Further, even if a *prima facie* case of obviousness argument has been properly alleged, such obviousness has been rebutted by the

comparative test results discussed above. Thus, the above-noted rejections should be withdrawn.

Distinctions between the Present Invention and Halko '046

Halko '046 discloses a multi-layer golf ball which includes a center, an intermediate layer, a wound layer of tensioned material, an a cover, wherein any one of the following criteria is satisfied: (a) at least a portion of the intermediate layer includes a thermoset material; (b) the winding includes fiber, such as glass or carbon; (c) the thickness of the wound layer is less than about 1 mm; and (d) at least a portion of the cover includes a thermoset material as noted in the Abstract.

Halko '046 fails to disclose or suggest the "solid" golf ball of the present invention because Halko '046 requires a "wound" layer of tensioned material. This feature is also inconsistent with the disclosure of Hebert '172, such that Halko '046 cannot be combined with Hebert '172 in an attempt to obtain the "solid" golf ball of the present invention. Further, although Halko '046 discloses that the intermediate layer may be formed from a wide variety of materials, some of which overlap with the materials that may be used to form the intermediate layer of the golf ball of the present invention, Halko '046 still fails to disclose or suggest employing an intermediate layer having the combination of both the flexural stiffness and

elongation properties as employed in the golf ball of the present invention. Thus, Halko '046 fails to recognize either the advantages achieved by the present invention as evidenced by the comparative test results discussed above. Consequently, significant patentable distinctions exist between the present invention and Halko '046, such that the above-noted rejections should be withdrawn.

Conclusion

It is submitted, for the reasons stated above, that all of the presently pending claims define patentable subject matter, such that the present application should be placed into condition for allowance.

If any questions arise regarding the above-matters, please contact applicant's representative, Andrew D. Meikle, in the Washington metropolitan area at the telephone number listed hereinbelow.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Andrew D. Meikle (Reg. No. 32,868) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 

Andrew D. Meikle, #32,868

ADM:kdm
0020-5221P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000